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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/734,790  | 12/12/2003  | Kenneth Bradley      | 09792350-0048               | 3464             |
| 38939   | 7590        | 10/17/2005           |                             |                  |
| DYKEMA GOSSETT PLLC<br>10 S. WACKER DR., STE. 2300<br>CHICAGO, IL 60606 |             |                      | EXAMINER<br>KIANNI, KAVEH C |                  |
|   |             |                      | ART UNIT<br>2883            | PAPER NUMBER     |
| DATE MAILED: 10/17/2005   |             |                      |                             |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/734,790

**Applicant(s)**

BRADLEY ET AL.

**Examiner**

Kianni C. Kaveh

**Art Unit**

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Applicant's canceling of claims 2-4, 9-12, 19-20, 276, 279-280, 296 and 423 in the amendment/response submitted on 09/09/2005 is acknowledged.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, regarding lines 3-5, is indefinite/ambiguous as to whether the index of refraction of the first and the second optical fibers *is similar* to that of microsphere or whether it *changes similarly/like to that of microsphere*. Correction is required.

#### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly

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owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (US 20020039470).

Regarding claim 1, Braun teaches a method of optically switching a signal (see at least fig. 1-2 and parag. 0002) the method comprising:

placing a dielectric microsphere capable of WGM resonance for a specific wavelength of light (see parag. 0052), with a voltage alterable steady state index of refraction "n" substantially similar to the index of refraction of a first and a second optical waveguide (see parag. 0073-0075 and 0110; wherein heating element(s)/electrode(s) using current/voltage alters the refractive index of the fiber(s)/waveguide(s) in order to couple/switch signal to another waveguide through the microresonator), in close proximity with the unclad or thinly clad regions of the first and second optical waveguides (see at least parag. 0092); placing a pair of electrodes on either side of the dielectric microsphere (see at least parag. 0092); passing voltage, adequate to alter the steady state index of refraction "n" of the dielectric microsphere, through the pair of electrodes (see parag. 0073-0075 and 0110); providing the specific wavelength of light, the dielectric microsphere resonates for, as a signal within the first optical fiber; terminating the voltage whereby the index of refraction "n" of the dielectric

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microsphere returns to its steady state (see parag. 0073-0075 and 0110); switching the signal from the first optical fiber across the dielectric microsphere to the second optical waveguide (see parag. 0073-0075 and 0110); and, reapplying the voltage (see parag. 0073-0075 and 0110; wherein the resonance is controllably empowered as desired). However, in above embodiment Braun does not specifically teach wherein the above optical waveguides are optical fibers. This limitation is more specifically taught in another embodiment (see parag. 0123). Thus it is would have been obvious to a person of ordinary skill in the art when the invention was made to combine different embodiments of Braun, which are compatible with each other, so as instead of optical waveguides to use optical fibers anticipated by Braun since such optical coupling would provide multi-channel add/drop filter (see parag. 0002).

### ***Citation of Relevant Prior Art***

Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Braun et al. 6665476

Blair et al. 6865314

Tapalian et al. 20030152313

Tapalian et al. 6934436

Strecker 6661950

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These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**


(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

**KAVEH KIANNI  
PRIMARY EXAMINER**

  
K. Cyrus Kianni  
Primary Patent Examiner  
Group Art Unit 2883

October 12, 2005